



# MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

**Grade 'A++' Accredited by NAAC**

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COMPETENCY BASED MEDICAL EDUCATION

**(CBME)**

**(with effect from 2021-2022 Batches)**

## **Curriculum for Master of Surgery Ophthalmology**

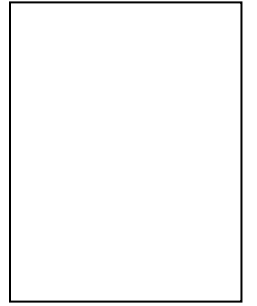
Amended upto AC-46/2023, Dated 28/04/2023

### **Amended History**

1. Approved as per AC - 42/2022, [Resolution No.3.56], Dated 26/04/2022.
2. Amended upto AC-46/2023 resolution No 5.37, dated 28/04/2023.



**MGM MEDICAL COLLEGE**  
KAMOTHE, NAVI MUMBAI



**POST GRADUATE STUDENT'S**  
**RECORD BOOK**  
**DEPT. OF OPHTHALMOLOGY**

**MGM INSTITUTE OF HEALTH SCIENCES**  
**(Deemed University u/s 3 of UGC Act 1956) Accredited by NAAC 'A'**  
**Grade**

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**MGM INSTITUTE OF HEALTH SCIENCES,  
NAVI MUMBAI  
(Accredited with NAAC 'A' Grade)  
LOG BOOK  
OPHTHALMOLOGY**

**Name of Student:** \_\_\_\_\_

**Name of PG Guide:** \_\_\_\_\_

**Name of the College:** \_\_\_\_\_

\_\_\_\_\_

**MGM MEDICAL COLLEGE  
LOG BOOK  
MS OPHTHALMOLOGY**

**CERTIFICATE**

This is to certify that Dr. \_\_\_\_\_ has  
Successfully completed the requirement for the degree examination for M.S.  
(Ophthalmology) at MGM Medical College & Hospital Navi Mumbai  
The Procedures and academic activities recorded in the book are as per the college  
/Hospital records and have been carried out satisfactory.

Signature and Name

PG Guide

Signature and Name of

Head of the Department

**CERIFICATE**

**TITLE:** \_\_\_\_\_

Date of approval of Dissertation /Thesis from ethics committee: \_\_\_\_\_

Date of submission of Dissertation /Thesis to the University: \_\_\_\_\_

Name of the PG Guide: \_\_\_\_\_

Signature of PG Guide: \_\_\_\_\_

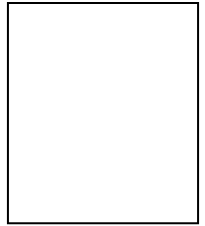
**Approved /NOT Approved**

Date: \_\_\_\_\_

Sign and Seal of Dean

**MGM MEDICAL COLLEGE**  
**MS. OPHTHALMOLOGY**

**GENERAL INFORMATION**



1. Name of the Student \_\_\_\_\_
2. Birth Date: \_\_\_\_\_
3. Sex: \_\_\_\_\_
4. Marital Status: \_\_\_\_\_
5. Languages Known: \_\_\_\_\_
6. Local Address: \_\_\_\_\_  
\_\_\_\_\_
7. Phone No. (Local)Mobile: \_\_\_\_\_
8. Permanent Address: \_\_\_\_\_  
\_\_\_\_\_
9. Phone No.: \_\_\_\_\_
10. Caste: \_\_\_\_\_
11. Nationality: \_\_\_\_\_
12. Qualification: \_\_\_\_\_

Degree	College	University	Date
I			
II			
III			

Any other Degree / Diploma

Date of Starting the Internship \_\_\_\_\_

Date of Completing the Internship \_\_\_\_\_

Date of Prov. Registration of MMC/MCI/DCI/SMC \_\_\_\_\_

Date of Permanent Registration of MMC/MCI/DCI/SMC \_\_\_\_\_

13. PG Registration :

14. Date of Joining the Department:

15. University Eligibility - Application for Prov. Eligibility :

(Only for the candidates from other University)

- Eligibility Certificate No. :

16. Progress Report - Date of starting the course :

- Date of submission of Dissertation :

- Month of appearing for University Exam

## **P.G. STUDENT'S RECORD BOOK**

The Student Record Book is an assemblage of all the activities from the commencement to completion of a Student's training at this University. The student has to maintain a record of his / her academic and service activities to exhibit his/her core progress during the tenure.

On loss of this book, it will be the student's responsibility to prepare new book consisting of the recorded data attested by the concerned HOD. This record book is a vital document to assess the progress of the student as the grades awarded to the student recorded in this book will be reflected in final grading of the respective student.

**REGISTRAR**

**MGM INSTITUTE OF HEALTH SCIENCES  
NAVI MUMBAI**

# **GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MS IN OPHTHALMOLOGY**

## **Preamble:**

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

The purpose of this programme is to standardize Ophthalmology teaching at post graduate level throughout the country so that it will benefit in achieving uniformity in post graduate and undergraduate teaching as well as result in creating competent ophthalmic surgeons with appropriate expertise.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of “domains of learning” under the heading “competencies”.

## **SUBJECT SPECIFIC LEARNING OBJECTIVES**

### **Programme Objectives**

The clinical post graduate training programmes are intended at developing in a student a blend of qualities that of a clinical specialist, a teacher and a researcher. These programmes are organized such that a post graduate student should possess the following qualities, knowledge and skills:

- a. The student should possess basic knowledge of the structure, function and development of the human body as related to ophthalmology, of the factors which may disturb these mechanisms and the disorders of structure and function which may result thereafter.
- b. The student should be able to practice and handle most day-to-day problems independently in ophthalmology. The student should recognize the limitations of his/her own clinical knowledge and know when to seek further help.
- c. The student should understand the effects of environment on health and be familiar with the epidemiology of at least the more common diseases in the field of ophthalmology.
- d. The student should be able to integrate the preventive methods with the curative and rehabilitative measures in the comprehensive management of the disease.



- e. The student should be familiar with common eye problems occurring in rural areas and be able to deal with them effectively.
- f. The student should also be made aware of Mobile Ophthalmic Unit and its working and components.
- g. The student should be familiar with the current developments in Ophthalmic Sciences.
- h. The student should be able to plan educational programmes in Ophthalmology in association with senior colleagues and be familiar with the modern methods of teaching and evaluation.
- i. The student should be able to identify a problem for research, plan a rational approach to its solution, execute it and critically evaluate his/her data in the light of existing knowledge.
- j. The student should reach the conclusions by logical deduction and should be able to assess evidence both as to its reliability and its relevance.
- k. The student should have basic knowledge of medico-legal aspects of medicine.
- l. The student should be familiar with patient counseling and proper consent taking.

## **SUBJECT SPECIFIC COMPETENCIES**

A post graduate student upon successfully qualifying in the M.S. (Ophthalmology) examination should be able to:

- a) Offer to the community, the current quality of 'standard of care' in ophthalmic diagnosis as well as therapeutics, medical or surgical, in most of the common situations encountered at the level of health services.
- b) Periodically self-assess his or her performance and keep abreast with ongoing advances in the field and apply the same in his/her practice.
- c) Be aware of her/his own limitations to the application of the specialty in situations, which warrant referral to more qualified centers or individuals.
- d) Apply research and epidemiological methods during his/her practice. The post graduate student should be able to present or publish work done by him/her.
- e) Contribute as an individual/group towards the fulfillment of national objectives with regard to prevention of blindness.
- f) Effectively communicate with patients or relatives so as to educate them sufficiently and give them the full benefit of informed consent to treatment and ensure compliance.

**At the end of the course, the student should have acquired knowledge in the following:**

### **A. Cognitive Domain**

#### **Basic Medical Sciences:**

- Attain understanding of the structure and function of the eye and its parts in health and disease.

- Attain understanding and application of knowledge of the structure and function of the parts of Central Nervous System and other parts of the body with influence or control on the structure and function of the eye.
- Attain understanding of and develop competence in executing common general laboratory procedures employed in diagnosis and research in Ophthalmology.

### **1. Clinical Ophthalmology:**

Given adequate opportunity to work on the basis of graded responsibilities in outpatients, inpatient and operation theatres on a rational basis in the clinical sections from the day of entry to the completion of the training programme, the students should be able to:

- Acquire scientific and rational approach to the diagnosis of ophthalmic cases presented.
- Acquire understanding of and develop inquisitiveness to investigate to establish cause and effect of the disease.
- To manage and treat all types of ophthalmic cases.
- To competently handle and execute safely all routine surgical procedures on lens, glaucoma, lid, sac, adnexa, retina and muscle anomalies.
- To competently handle all ophthalmic medical and surgical emergencies.
- To be familiar with micro-surgery and special surgical techniques.
- To demonstrate the knowledge of the pharmacological (including toxic) aspects of drugs used in ophthalmic practice and drugs commonly used in general diseases affecting the eyes.

### **2. Refraction:**

- Acquire competence in assessment of refractive errors and prescription of glasses for all types of refraction problems.
- Acquire basic knowledge of manufacture and fitting of glasses and competence of judging the accuracy and defects of the dispensed glasses.

### **3. Ophthalmic super-specialties:**

Given an opportunity to work on a rotational basis in various special clinics of sub-specialties of ophthalmology, if possible, the student should be able to:

- Examine, diagnose and demonstrate understanding of management of the problems of neuro-ophthalmology and refer appropriate cases to neurology and neuro-surgery.
- Examine, diagnose and demonstrate understanding of management of (medical and surgical) complicated problems in the field of (a) lens, (b) glaucoma, (c) cornea, (d) retina, (e) pediatric ophthalmology, (f) oculoplasty, (g) uvea, and (I) genetic problems in ophthalmology.
- To demonstrate understanding of the manufacture, and competence

prescription and dispensing of contact lenses and ocular prosthesis.

**4. Ophthalmic pathological/microbiological/biochemical sciences**

- Be able to interpret the diagnosis in correlation with the clinical data and routine materials received in such cases.

**5. Community Ophthalmology**

Eye camps may be conducted where the PG students are posted for imparting training to according to a set methodology. The community and school surveys may also be conducted by the post graduate students.

The post graduate students are given an opportunity to participate in surveys, eye camps. They should be able to guide rehabilitation workers in the organization and training of the blinds in art of daily living and in the vocational training of the blind leading to gainful employment.

**6. Research:**

- Recognise a research problem.
- State the objectives in terms of what is expected to be achieved in the end.
- Plan a rational approach with appropriate controls with full awareness of the statistical validity of the size of the material.
- Spell out the methodology and carry out most of the technical procedures required for the study.
- Accurately and objectively record on systematic lines results and observation made.
- Analyze the data with the aid of an appropriate statistical analysis.
- Interpret the observations in the light of existing knowledge and highlight in what ways the study has advanced existing knowledge on the subject and what further remains to be done.
- Write a thesis in accordance with the prescribed instructions.
- Write at least one scientific paper as expected of International Standards from the material of this thesis.

**B. Affective Domain:**

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well

as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

## **C. Psychomotor Domain**

At the end of the course, the student should acquire following clinical skills:

Essential diagnostic skills:

### **I. Examination techniques along with interpretation**

#### **1. Slit lamp Examination**

- i. Diffuse examination
- ii. Focal examination
- iii. Retro illumination – direct and indirect
- iv. Sclerotic scatter
- v. Specular reflection
- vi. Staining modalities and interpretation

#### **2. Fundus Evaluation**

- Direct/Indirect ophthalmoscopy
- Fundus drawing
- 3-mirror examination of the fundus
- 78-D/90-D/60-D examination
- Amsler's charting

### **II. Basic investigations along with their interpretation**

#### **1. Tonometry**

Tonometry - Applanation/Indentation/Non-contact

#### **2. Gonioscopy**

Gonioscopy grading of the anterior chamber angle

#### **3. Tear/ Lacrimal function tests**

- i. Staining- fluorescein and Rose Bengal
- ii. Schirmer test/tear film break uptime
- iii. Syringing
- iv. Dacrocystography

#### **4. Corneal**

- Corneal scraping and cauterization
- Smear preparation and interpretation (Gram's stain /KOH)
- Media inoculation
- Keratometry - performance and interpretation
- Pachymetry
- Corneal topography – if available

#### **5. Colour Vision evaluation**

- Ishihara pseudo isochromatic plates
- Farnsworth Munsell, if available

## **6. Refraction**

- i. Retinoscopy- Streak/ Priestley Smith
- ii. Use of Jackson's cross-cylinder
- iii. Subjective and objective refraction
- iv. Prescription of glasses

## **7. Diagnosis and assessment of Squint**

- i. Ocular position and motility examination
- ii. Synoptophore usage
- iii. Lees screen usage
- iv. Diplopia charting
- v. Assessment of strabismus - cover tests/prisms bars
- vi. Amblyopia diagnosis and treatment
- vii. Assessment of convergence, accommodation, stereopsis, suppression

## **8. Exophthalmometry**

Usage of Hertel's exophthalmometer - proptosis measurement

## **9. Contact Lenses**

- Fitting and assessment of RGP and soft lenses
- Subjective verification of over refraction
- Complications arising of contact lens use
- Educating the patient regarding CL usage and imparting relevant knowledge of the complications arising thereon

## **10. Low Vision Aids**

- Knowledge of basic optical devices available and relative advantages and disadvantages of each.
- The basics of fitting with knowledge of availability & cost

### **III. The post graduate must be well versed with the following investigative modalities although the student may or may not perform it individually. But, she/he should be able to interpret results of the following tests:**

1. Fundus photography
2. Fluorescein angiography
3. Ophthalmic ultrasound A-scan/B-scan
4. Automated perimetry for glaucoma and neurological lesions
5. Radiological tests - X rays - Antero posterior/ Lateral view  
PNS (Water's view) / Optic canal views  
Localisation of intra-ocular and intra-orbital FBs  
Interpretations of -USG/ CT/ MRI Scans
6. OCT and UBM
7. ERG, EOG, and VEP

#### IV. Minor surgical procedures – Must know and perform independently

- Conjunctival and corneal foreign body removal on the slit lamp
- Chalazion incision and curettage
- Pterygium excision
- Biopsy of small lid tumours
- Suture removal- skin/conjunctival/corneal/corneoscleral
- Tarsorrhaphy
- Sub-conjunctival injection
- Retrobulbar, para-bulbar anaesthesia
- Posterior Sub-Tenon's injections
- Artificial eye fitting

#### V. Surgical Procedures

##### 1. Must know and can perform independently

###### a. Ocular anaesthesia:

- Retrobulbar anaesthesia
- Peribulbar anaesthesia
- Facial blocks- O'Brien / Atkinson/Van lint and modifications
- Frontal blocks
- Infra orbital blocks
- Blocks for sac surgery

##### 2. Must be able to independently perform and deal with complications arising from the following surgeries:

- Lid Surgery-           Tarsorrhaphy  
                                  Ectropion and Ectropion  
                                  Lid repair following trauma  
                                  Epilation
- Destructive procedures  
                                  Evisceration with or without implant  
                                  Enucleation with or without implant
- Sac Surgery
  - i. Dacryocystectomy
  - ii. Dacryocystorhinostomy
  - iii. Probing for congenital obstruction of nasolacrimal duct
- Strabismus Surgery  
                                  Recession and resection procedures on the horizontal recti.
- Orbit Surgery  
                                  Incision and drainage via anterior orbitotomy for abscess
- Cyclocryotherapy/Cyclophotocoagulation

3. PG Students should be well conversant with use of operating microscope and must be able to perform the surgeries listed below competently under the same:
  - Cataract Surgery
    - i. Standard ECCE (extracapsular cataract extraction; first year) with or without IOL implantation
    - ii. Small incision ECCE with or without IOL implantation and/or Phacoemulsification with PC IOL implantation
    - iii. Intracapsular cataract extraction (second year)
    - iv. Cataract with Phacoemulsification (third year)
    - v. Secondary AC or PC IOL implantation
  - Vitrectomy/Scleral buckling
    - Intra-vitreous and intra-cameral (anterior chamber) injection techniques and doses of drugs for the same
    - Needs to know the basis of open sky vitrectomy (anterior segment) as well as management of cataract surgery complications.
    - Assisting vitrectomy and scleral buckling procedures
  - Ocular surface procedures
    - Pterygium excision with modifications
    - Conjunctival cyst excision/foreign body removal
    - Corneal foreign body removal
    - Conjunctival flap/ peritomy
  - Glaucoma
    - Trabeculectomy
  - Corneal
    - Repair of corneo - scleral perforations
    - Corneal suture removal
    - Application of glue and bandage contact lens
4. Should have performed/assisted the following microscopic surgeries
  - i. Keratoplasty
    - Therapeutic and optical
  - ii Glaucoma surgery
    - Pharmacological modulation of trabeculectomy
    - Trabeculotomy
    - Goniotomy
    - Glaucoma valve implant surgery
5. Desirable to be able to perform following laser procedures
  - Yag Capsulotomy
  - Laser iridotomy
  - Focal and panretinal photocoagulation
6. Should have assisted/knowledge of Keratorefractive procedures

## **Operations:**

The PG is provided with an opportunity to perform operations both extra-ocular and intra-ocular with the assistance of the senior post graduate students and/or under the direct supervision of a faculty member. The student is provided with an opportunity to learn special and complex operations by assisting the senior post graduate student or the faculty in operations of cases of the specialty and be responsible for the post-operative care of these cases.

In **first phase**, the post graduate student is given training in preparations of cases for operation, pre-medication and regional anaesthetic blocks. In the **next phase**, the post graduate student assists the operating surgeon during the operations. In the **third phase**, the post graduate student operates independently assisted by senior post graduate student or a faculty member. She/he is required to be proficient in some operations and show familiarity with others.

## **YEAR – WISE STRUCTURED TRAINING SCHEDULE**

### **A. First Year**

#### **1. Theoretical knowledge**

- a. Basic sciences should be addressed during this period
- b. It is useful to have an internal examination of the basic sciences at the end of the first year, which will decide appearance at the final examination.
- c. Clinical Ophthalmology
- d. Student shall be posted in basic departments (Anatomy, Pathology & Microbiology) for 10 days each

#### **2. Clinical examination and diagnostics**

- a. The basics of history taking, order and correct methods of examination and recording have to be learnt during this time.
- b. Clinical and surgical decision making is encouraged under supervision.

#### **3. Diagnosis**

- a. All procedures should as far as possible be done and the student should be fairly conversant with most of the techniques.

#### **4. Surgery**

- a. Extra ocular surgery
- b. Destructive procedures must have been done independently with or without Assistance
- c. Local Anesthesia (retro bulbar and Peribulbar blocks)
- d. Sub conjunctival injections
- e. Chalazion and pterygium surgery.
- f. Lid and corneal foreign body removal, suture removal on the slit lamp etc.
- g. At the end of the first year, the student should have participated as assistant in most of the intra ocular procedures as an assistant.
- h. Cataract Surgery
  - Wet lab: Practice steps of cataract surgery
  - Cataract Surgery should be approached in stages, emphasis to be given on microscopic surgery.
- i. Skills Lab: practicing procedure like Direct ophthalmoscopy, Indirect



- ophthalmoscopic examination simulation, cataract surgery and Phacoemulsification simulation on mannequin
- j. Cadaver lab – Dissection of Orbit and Eyeball
- k. Suturing Technique.

## **B. Second Year**

### **1. Theoretical knowledge**

Here emphasis will be made on clinical Ophthalmology

### **2. Clinical examination and diagnostics**

The student is encouraged to take diagnostic investigational and therapeutic decisions on his /her own. He / She should be able to manage most of the common problem that arise without guidance. However, the degree of freedom allowed in decision making is left to the confidence of the teacher in the student's abilities. It is to be encouraged. They may require guidance for more complex cases.

### **3. Diagnostics**

The student should be acquainted and at ease with most diagnostic procedures. Other procedures are optional skills if facility is available in the department. However, as far as possible, it is advisable to make all such facility available in the department.

### **4. Surgical skills**

- a. At the end of the second year, the student should capable of operating without assistance, but under supervision, all varieties of cataract (standard Extra capsular cataract Extraction & Small incision cataract surgery) except congenital cataract. He / She should also know the management of cataract induced complications and cataract surgical complications (management of vitreous loss)
- b. He/ She should have performed the basic anti glaucoma procedures such as trabeculectomy either with assistance or under supervision
- c. Extra ocular surgery such as squint surgery could be performed with assistance
- d. In addition, lacrimal sac surgery such as dacryocystectomy and dacryostorhinostomy should be possible with assistance or under supervision.
- e. In addition, the master's candidate should ideally have assisted in the other surgery such as retinal surgery, vitrectomy, orbit surgery, advanced oculoplastic surgery etc.
- f. Assisting for squint surgery
- g. Assisting for lid surgery. Tarsorrhaphy should be performed independently and also the simpler oculoplastic procedures.

### **5. Sub specialty training**

Student may be deputed for a month in sub specialty training for advanced learning

## **C. Third Year:**

### **1. Theoretical Knowledge:**

They should be thorough with basic clinical ophthalmology with extensive and intensive reading.

## **2. Clinical examination and diagnostics**

They should be acquainted with all aspects of clinical examination and decision making. Independent decision making and investigational and management freedom should be given at this stage for the more usual situations. However, complex cases could be discussed with consultant and degree of freedom of decision making is left to the consultant's discretion.

## **3. Surgical Skills**

- a. Routine skills are honed during this period.
- b. Cataract surgery should be done independently without supervision or assistance.
- c. Anti-glaucoma surgery may be done.
- d. Can assist other procedures such as retinal surgery, orbit surgery etc. The choice of doing the surgery with assistance and supervision should be left to the discretion of the consultant.
- e. Student should be able to perform Phacoemulsification effectively.

# **SYLLABUS**

## **Course contents:**

These are only broad guidelines and are illustrative, there may be overlap between sections.

### **I. Basic Sciences:**

#### 1. Orbital and ocular anatomy

- i. Gross anatomy
- ii. Histology
- iii. Embryology

#### 2. Ocular Physiology

#### 3. Ocular Pathology

#### 4. Ocular Biochemistry

General biochemistry, biochemistry applicable to ocular function

#### 5. Ocular Microbiology

General Microbiology, specific microbiology applicable to the eye

#### 6. Immunology with particular reference to ocular immunology

#### 7. Genetics in ophthalmology

#### 8. Community Eye Health

### **II. Optics**

- a. Basic physics of optics
- b. Applied ophthalmic optics
- c. Applied optics including optical devices
- d. Disorders of Refraction

### **III. Clinical Ophthalmology**

- i. Disorders of the lids
- ii. Disorders of the lacrimal system
- iii. Disorders of the Conjunctiva
- iv. Disorders of the Sclera
- v. Disorders of the Cornea

- vi. Disorders of the Uveal Tract
- vii. Disorders of the Lens
- viii. Disorders of the Retina
- ix. Disorders of the Optic Nerve and Visual Pathway
- x. Disorders of the Orbit
- xi. Glaucoma
- xii. Neuro-ophthalmology
- xiii. Paediatric Ophthalmology
- xiv. Ocular involvement in Systemic Disease
- xv. Immune Ocular Disorders
- xvi. Strabismus and Amblyopia
- xvii. Ocular oncology

## **TEACHING AND LEARNING METHODS**

### **Teaching Methodology:**

The theoretical knowledge is imparted to the post graduate student through distinct courses of lecture demonstrations, seminars, symposia and inter- and intra-departmental meetings. The students are exposed to recent advances through discussions in journal clubs and participation in CMEs, and symposia.

### **The post graduate students are imparted clinical training in several ways:**

#### **1. Group Discussion**

The junior post graduate students may present the symposium to their senior postgraduates where it is fully discussed before finally being discussed in front of the faculty or senior eye specialists. A free and fair discussion is encouraged. These discussions enable the post graduate students to prepare for a general discussion in the class.

#### **2. Clinical Case discussion**

- a. Bedside discussion on the rounds and outpatient teaching take their toll with patient management. Therefore, in addition to these, clinical case discussions should form part of a department's schedule at a fixed time every week. This could range from 1-2 hours and could be held at least once a week. The choice and manner of presentation and discussion varies widely and is left to the discretion of the department. Every effort should be made to include as wide a variety of cases as possible over three years with multiple repetitions. Problem oriented approach is better as it aids in decision making skills.
- b. In addition to bedside teaching rounds, at least 5-hr of formal teaching per week are necessary.
- c. Consultant case presentation is another approach which should be encouraged as it aids in solving complex problems and also is forum for discussion of

interesting cases.

- d. Case discussions on the patient's records written by the student is to be encouraged as it helps exercise the student's diagnostic and decision making skills. It also helps the consultant in critical evaluation of the student's progress academically.
- e. Case presentation at other in-hospital multi-disciplinary forums.
- f. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- g. Department should encourage e-learning activities.

### **3. Seminars**

Seminars should be conducted at least once weekly. The duration should be at least one hour. The topics selected should be repeated once in 3 years so as to cover as wide a range of topics as possible. Seminars could be individual presentations or a continuum (large topic) with many post graduate students participating.

### **4. Journal Clubs**

Journals are reviewed in particular covering all articles in that subject over a 6-month period and are discussed by the post graduate student under the following headings.

- 1) Aim
- 2) Methods
- 3) Observations
- 4) Discussions
- 5) Conclusions

The post graduate student to whom the journal is allotted presents the journal summaries to the senior postgraduates. They are expected to show their understanding of the aspects covered in the article and clarify any of the points raised in the article, offer criticisms and evaluate the article in the light of known literature.

- 5. A postgraduate student of a postgraduate degree course in broad specialties/super specialties would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

- 6. **Out-Patients:** For the first six months of the training programme, post graduate students may be attached to a faculty member to be able to pick up methods of history taking and ocular examination in ophthalmic practice. During this period the post graduate student may also be oriented to the common ophthalmic problems. After 6 months, the clinical post graduate student may work independently, where he receives new and old cases including refractions and

prescribes for them. The post graduate students are attached to a senior post graduate student and faculty member whom they can consult in case of difficulty.

7. **Wards:** Each post graduate student may be allotted beds in the in-patient section depending upon the total bed capacity and the number of the post graduates. The whole concept is to provide the post graduate student increasing opportunity to work with increasing responsibility according to seniority. A detailed history and case record is to be maintained by the post graduate student.

**Relevance of beds and admissions in Ophthalmology has really gone down at present, as most of the surgical and special investigative procedures are being performed on out-patient basis. Most of the teaching has to be imparted in out-patients' department and special Clinics**

8. **Rotations: Specialty clinics**

The student may rotate in the following subspecialty clinics:

- Anterior segment and cataract
- Glaucoma
- Oculoplastics
- Paediatric ophthalmology and strabismus
- Retina and Uvea
- Cornea, Contact lens and low vision
- Neuroophthalmology
- Refractive Clinic

9. **Practical in Ocular Histopathology**

The post graduate students may be provided with fully stained slides of the ocular tissues along with relevant clinical data and discuss the diagnosis and differential diagnosis on the basis of the information provided

10. Attend accredited scientific meetings (CME, Symposia, and Conferences).
11. Additional sessions on basic sciences, biostatistics, research methodology, teaching methodology, hospital waste management, health economics, medical ethics and legal issues related to ophthalmology practice are suggested.
12. Maintenance of **log book**: Log books shall be checked and assessed periodically by the faculty members imparting the training.

**During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in medical colleges is mandatory.**

# ASSESSMENT

**FORMATIVE ASSESSMENT: i.e., during the training**

**Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self-directed learning and ability to practice in the system.**

**FORMATIVE ASSESSMENT: i.e., during the training**

## **General Principles**

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination.

**Quarterly assessment during the MS training should be based on following educational activities:**

- 1. Journal based / recent advances learning**
- 2. Patient based /Laboratory or Skill based learning**
- 3. Self-directed learning and teaching**
- 4. Departmental and interdepartmental learning activity**
- 5. External and Outreach Activities /CMEs**

**The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I)**

**SUMMATIVE ASSESSMENT: i.e., assessment at the end of training**

The summative examination would be carried out as per the Rules given in

**POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.**

**The Post Graduate examination shall be in three parts:**

### **1. Thesis:**

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the post graduate student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners. From regulations)

**The thesis will be written as per the MGMIHS guidelines**

**2. Theory Examination:**

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

**There shall be four theory papers.**

**Title of the Theory Paper with Content**

**Paper I:** Basic Sciences related to Ophthalmology, Refraction & Optics

**Paper II:** Clinical Ophthalmology

**Paper III:** Systemic Diseases in Relation to Ophthalmology

**Paper IV:** Recent Advances in Ophthalmology and Community Ophthalmology

**Each Paper will have:**

Paper I	100 marks	3 Hrs.
Paper II	100 marks	3 Hrs.
Paper III	100 marks	3 Hrs.
Paper IV	<u>100marks</u>	3 Hrs.
	Total 400marks	

**3. Clinical/Practical and oral/viva voce examination**

**i. Clinical**

- 1 – Long Case
- 2 -- Short Cases with different problems
- 2 – Fundus Cases
- 1 - Refraction Case

**ii. Oral/Viva voce Examination shall be comprehensive enough to test the post graduate student's overall knowledge of the subject and shall include:**

- a) Instruments
- b) Pathology specimens
- c) Drugs, X-rays, USG/OCT/CT/MRI Scans, etc.
- d) Visual fields and other ophthalmic diagnostic charts





**WEEKLY TIME TABLE**

<b>DAY</b>	<b>BFORENOON</b>	<b>AFTER NOON</b>
<b>MONDAY</b>		
<b>TUESDAY</b>		
<b>WEDNESDAY</b>		
<b>THURSDAY</b>		
<b>FRIDAY</b>		
<b>SATURDAY</b>		
<b>SUNDAY</b>		

**OTHER ACTIVITIES (FREQUENCY e.g. WEEKLY /MONTHLY)**

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**APPROVED DISSERTATION TOPIC**

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SIGNATURE OF PG TACHER

SIGNATURE OF HOD

**Annexure I**

**Postgraduate Students Appraisal MS Ophthalmology**

**Name of the Department/Unit:**

**Name of the PG Student:**

**Period of Training: FROM..... TO.....**

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1.	Journal based / recent advances learning				
2.	Patient based /Laboratory or Skill based learning				
3.	Self-directed learning and teaching				
4.	Departmental and interdepartmental learning activity				
5.	External and Outreach Activities / CMEs				
6.	Thesis / Research work				
7.	Log Book Maintenance				

**Publications**

**Yes/No**

Remarks\* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**\*REMARKS:** Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

**SIGNATURE OF ASSESSEE**

**SIGNATURE OF CONSULTANT**

**SIGNATURE OF HOD**

## FORMAT OF MODEL CHECK LISTS

### CHECK LIST-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

## FORMAT OF MODEL CHECK LISTS

### CHECK LIST-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

## FORMAT OF MODEL CHECK LISTS

### CHECK LIST-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

## FORMAT OF MODEL CHECK LISTS

### CHECK LIST-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					



## FORMAT OF MODEL CHECK LISTS

### CHECK LIST-I

#### MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the Candidate					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications consulted					
5.	Ability to respond to questions on the paper/subject					
6.	Audio-Visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

## CHECK LIST-II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall performance					
10.	Any other observation					
	Total Score					

## CHECK LIST-II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall performance					
10.	Any other observation					
	Total Score					

## CHECK LIST-II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall performance					
10.	Any other observation					
	Total Score					

## CHECK LIST-II

### MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the student: \_\_\_\_\_

Name of the faculty/observer: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of Preparation					
4.	Clarity of Presentation					
5.	Understanding of subject					
6.	Ability to answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall performance					
10.	Any other observation					
	Total Score					



**SUMMARY OF EXTERNAL CASES**

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**SUMMARY OF FUNDUS CASES**




### CHECK LIST-III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counselling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of Ward work					
	Total Score					

### CHECK LIST-III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counselling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of Ward work					
	Total Score					

### CHECK LIST-III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counselling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of Ward work					
	Total Score					

### CHECK LIST-III

#### MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counselling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of Ward work					
	Total Score					

## CHECK LIST-IV

### EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

## CHECK LIST-IV

### EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					



## CHECK LIST-IV

### EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

## CHECK LIST-IV

### EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the student: \_\_\_\_\_

Name of the Unit Head: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

## CHECK LIST-V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

S. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc. specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses A.V. aids appropriately		

## CHECK LIST-V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

S. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc. specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses A.V. aids appropriately		

## CHECK LIST-V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

S. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc. specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses A.V. aids appropriately		

## CHECK LIST-V

### MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

S. No.		Strong Point	Weak Point
1.	Communication of the purpose of the talk		
2.	Evokes audience interest in the subject		
3.	The introduction		
4.	The sequence of ideas		
5.	The use of practical examples and/or illustrations		
6.	Speaking style (enjoyable, monotonous, etc. specify)		
7.	Attempts audience participation		
8.	Summary of the main points at the end		
9.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses A.V. aids appropriately		

## CHECK LIST-VI

### MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of Protocol					
5.	Preparation of proforma					
	Total Score					

## CHECK LIST-VI

### MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of Protocol					
5.	Preparation of proforma					
	Total Score					



## CHECK LIST-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

## CHECK LIST-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

## CHECK LIST-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

## CHECK LIST-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

## CHECK LIST-VII

### CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the student: \_\_\_\_\_

Name of the faculty: \_\_\_\_\_

Date: \_\_\_\_\_

S. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case material					
3.	Depth of analysis/discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

**SUMMARY OF JOURNAL CLUB**

<b>SR.NO</b>	<b>DATE</b>	<b>ARTICLE</b>	<b>MODERATOR</b>	<b>SIGNATURE</b>









## SUMMARY OF VARIOUS DIAGNOSTIC PROCEDURES PERFORMED

### A. Assessment of Basic Surgical Skills:

Procedure	Nature of activity & number			
	O	A	PA	PI
1. Operating theatre				
a. Anesthesia				
i. Retro-bulbar anesthesia				
ii. Peribulbar anesthesia				
iii. Para bulbar anesthesia				
iv. Facial blocks				
v. Frontal blocks				
vi. Infra orbital blocks				
vii. Blocks for sac surgery				
b. Operating microscope familiarity with use is essential				
c. Lid Surgery				
i. Tarsorrhaphy				
ii. Ectropion and entropion procedures				
iii. Ptosis surgery				
iv. Lid repair following trauma and surgical excision of lid for tumours, etc.				
v. Epilation, electrolysis, cryotherapy, etc.				
d. Destructive procedures:				
i. Evisceration with or without implant				
ii. Enucleation with or without implant				
iii. Modified enucleation procedures for intraocular tumours				
e. Sac surgery				
i. Dacryocystectomy				
ii. Dacryocystorhinostomy				
iii. Endonasal Dacryocystorhinostomy				
iv. Probing for congenital obstruction of nasolacrimal duct				
f. Extraocular muscle surgery				
i. Recession and resection procedures on the horizontal recti				
g. Cataract Surgery				
i. Standard ECCE with or without IOL implantation				
ii. Small incision ECCE with or without IOL implantation.				
iii. Membranectomy				
iv. Secondary AC or PC IOL				
v. implantation				
vi. Phacoemulsification				
vii. Intra capsular cataract extraction				
h. Orbit surgery				
i. Anterior orbitotomy for diagnostics and therapy				
ii. Lateral orbitotomy for tumours				
iii. Incision and drainage via anterior orbitotomy for abscess.				
iv. Exenteration				
v. Fine needle aspiration biopsy of orbital disease.				
i. Vitreous surgery				

i. Intra-vitreous and intra-cameral (anterior chamber injection)				
ii. techniques and dosages, particularly for endophthalmitis management				
iii. Needs to know the basics of open sky vitrectomy (anterior segment) as management of cataract surgery complication.				
iv. Automated vitrectomy				
v. Assist vitrectomy surgeon if facility exists.				
j. Cornea procedures				
i. Assisting or doing penetrating keratoplasty (therapeutic, optical)				
ii. Lamellar keratoplasty				
iii. Corneal button harvesting				
iv. Amniotic membrane grafting				
k. Glaucoma surgery				
i. Trabeculectomy				
ii. Pharmacological modification of trabeculectomy				
iii. Goniotomy				
iv. Cyclocryotherapy and other cyclodestructive procedures				
l. Surface ocular procedures				
i. Pterygium excision with modifications				
ii. Conjunctival grafting				
iii. Biopsy of cornea and conjunctiva				
iv. Pterygium excision				
2. Outpatient:				
a. Manual diagnostic procedures such as syringing, corneal scraping, conjunctival swab collection, conjunctival scraping etc.				
b. Conjunctival and corneal foreign body removal on the slit lamp				
c. Chalazion incision and curettage				
d. Biopsy of small lid and tumours				
e. Suture removal skin, conjunctival, corneal, and corneoscleral surgeries				
f. Sub conjunctival injection				
g. Posterior sub – Tenon’s injections				
h. Artificial eye fitting				
i. Laser procedures				
i. Laser capsulotomy				
ii. Laser iridotomy				
iii. Laser trabeculoplasty				
iv. Pan-retinal photocoagulation				
v. Focal photocoagulation				
3. Communication Skills:				
a. Consent				
b. Counseling for Eye procedures				
c. Counseling for surgical complications				

- O- Observed
- A - Assisted
- PA – Performed with Assistance
- PI - Perform Independently







**ARTICLES PUBLISHED IN BOOKS/JOURNALS**

<b>TOPIC</b>	<b>PERERENCE</b>	<b>SIGNATURE</b>

## RECORD OF INTERNAL ASSESSMENT

DATE	THEORY	PRACTICAL	SIGNATURE



**ASSESSMENT OF RESIDENT**

	1 <sup>ST</sup> YEAR	2 <sup>ND</sup> YEAR	3 <sup>RD</sup> YEAR
1) Assessed by			
2) Date			
3) Remarks: Score (0,1,2,3,4)			
• Regularity			
• Punctuality			
• Initiative			
• Rapport with the patient			
• Rapport with Colleagues			
• Ability to work hard			
• Clinical skills			
• Knowledge			
• Self-presentation			
• Responsibility			
4) Score			
Score Poor- 0 Below average- 1 Average- 2 Good -3 Excellent -4			
Remarks by HOD			
Signature			
Stamp			

**MARKLIST PATTERN FOR PRACTICAL AND VIVA-VOCE EXAMINATION**

EXAM CENTRE: \_\_\_\_\_  
 COURSE/ EXAMINATION: \_\_\_\_\_  
 DATE OF EXAMINATION: \_\_\_\_\_

Seat No.	1 Practical examination						2 Viva-voce examination	Grand Total Marks 400 (1+2)
	OSCE	Demonstration / Investigation interpretation	Refraction Case	Clinical case			Practical/ Clinical Total	
	40	40	20	Long Case (100)	Short Case (50)	Fundus Case (50)	300	100

S.No	NAME OF EXAMINER	COLLEGE	SIGNATURE WITH DATE
1			
2			
3			
4			

## RECOMMENDED READING

### A. GENERAL OPHTHALMOLOGY

1. Duane's System of Ophthalmology –Clinical Ophthalmology, Revised edition 2013
2. Jakobiec Series –Principles and Practice of Ophthalmology, 3rd Edition, 2008
3. American Academy of Ophthalmology Series—Ophthalmic Pathology, 2018-19
4. John, The Chicago eye and emergency manual 1st edition, 2011
5. Podos and Yanoff Series—text book of ophthalmology, 1994
6. Jack Kanski Clinical ophthalmology—A systemic approach, 8th edition, 2016
7. Yanoff & Duker., Ophthalmology, 5th Edition, 2018
8. Pinelli, Elborgy, Nutrition and the eye 1st edition, 2010
9. Chaudhari, PG ophthalmology 1st edition 2012
10. Requisites in Ophthalmology
11. Springer—Essential of Ophthalmology-2007

### B. CORNEA

1. Krachmer—Cornea, fundamentals of Cornea & External disease, 4th edition, 2016
2. Leibowitz waring—Corneal Disorders Clinical diagnosis and management, 2nd edition, 1998
3. Smolin & Thoft's—The Cornea scientific foundation & Clinical Practice, 4th Edition 2005
4. Cornea Color Atlas—Krachmer Jay H Cornea Color Atlas, 3rd edition, 2014
5. Grayson Diseases of cornea, 4th edition, 1997

### B. GLAUCOMA

1. Bruce Shields Text Book of Glaucoma Shields Text Book of Glaucoma R. Rand Allingham 6th edn 2010
2. Becker & Schaeffer's Text book of Glaucoma 8th edition, 2009
3. The Visual Field –Harrington, Drake, the visual fields text and atlas of clinical Perimetry, 1990
4. The Visual Field Testing with Humphrey field analysis—Chaplin Neil T 1999
5. Color Atlas of Glaucoma—Shields M Bruce, 1998
6. Krupin & Shields Series on Glaucoma -1996
7. Andersons Computerized Perimetry -1999
8. Gonioscopy: A text and atlas with DVD-ROM 1st edition, 2013

### D. RETINAL DISEASES

1. Stephen Ryan's retina—Retina Editor in chief Stephen, J Ryan, 5th edition, 2013
2. Practical Atlas of Retinal Disease and therapy—W. R. Freeman, 2nd Edition 1998
3. Ron Michel –Retinal Detachment – 2nd edition, 1996
4. Steve Charles—Basic Vitrectomy- 5th edition, 2013
5. Medical Retina –Frank J Holz, 2010, 1st edition
6. Optical coherence tomography

7. **Handbook of retinal OCT 1st edition, J.S Duker, 2014**
8. **Atlas of Optical Coherence Tomography of Macular Diseases - Vishali Gupta, 2004**

#### **E. ULTRASOUND**

1. **Sandra Byrne & Ronald Green—Ophthalmic Ultra Sound -2010**
2. **Shanker Netralaya—Ultra Sound of Eye- 2nd edition, 2013**

#### **F. UVEA**

1. **Robert B. Nussenbalt—Uveitis Fundamental & Clinical Practice 4th edition, 2010**
2. **Smith & Nozik Clinical Uveitis 3rd edition, 2003**

#### **G. CATARACTSURGERY**

1. **Jaffe—Cataract Surgery & its complications Normans Jaffe4thEdition-1997**
2. **Steinest Caratact Surgery 3rd edition, 2010**

#### **H. ORBITAL DISEASE**

1. **Rootmans Diseases of the Orbit- 2nd edition 2003**
2. **Jakobiec & Snow—Diseases of the Orbit**

#### **I. NEURO OPHTHALMOLOGY**

1. **Walsh & Hoyt—Clinical Neuro Ophthalmology 6th edition2005**
2. **Burde Savino Trobe – 3rd edition 2002**

#### **J. TUMOURS**

1. **Jerry Shields Diagnosis and Management of Orbital Tumours (Atlas of Orbital Tumours 2008)**
2. **Char—Clinical ocular oncology 2nd edition 1997**

#### **K. STRABISMUS**

1. **Scheiman & Wick—Clinical Management of Binocular Vision, 4th edition, 2013**
2. **Diagnosis and Management of Ocular Motility Disorders, 4th edition, 2013**
3. **Mein & Trimble 4th edition, 2014**
4. **Gunter Von Noorden, Binocular vision & ocular Motility, theory & Management of strabismus, 6th edition, 2001**

#### **L. OPHTHALMIC PATHOLOGY**

1. **Spencer—Ophthalmic Pathology Atlas & Text Book,4th edition, 1996**
2. **Yanoff & Fine—Yanoff Myron Ocular pathology 7th edition, 2015**
3. **Zimmerman**
4. **Margo and Gross Nicholas**

## **M. OCULAR PHARMACOLOGY**

- 1. Havener's Ocular Pharmacology, 16th edition, 1994**
- 2. Action and use of ophthalmic drugs - Davies, Hopkins & Pearson 2009**
- 3. Fraunfelder & Roy, 6th edition, 2007**

## **N. ANATOMY**

- 1. Wolff's Anatomy of the eye & Orbit, 8th edition 1998**
- 2. Snell's – 2nd edition clinical anatomy of eye, 1998**

## **O. PHYSIOLOGY**

- 1. Adler's Physiology of Eye—Clinical Application 11th edition, 2011**

## **P. PAEDIATRIC OPHTHALMOLOGY**

- 1. Taylor Pediatric Ophthalmology in strabismus, 5th edition, 2012**
- 2. Kenneth Wright—Pediatric Ophthalmology & Strabismus, 2nd edition, 2012**
- 3. Azad retinopathy of prematurity, Text and atlas, 1st edition, 2011**

## **Q. REFRACTION**

- 1. Duke Elders Practice of Refraction—10th Edition,1993**
- 2. Boris 2n edition,2006**
- 3. Elkington & Frank – 3rd edition, 1999**

## **R. OPERATIVE SURGERY**

- 1. Stellard—Stellards Eye Surgery 7th Edition, 1989**
- 2. Gottsch, Stark and Goldberg, 5th edition, 1998**

## **JOURNALS**

**03-05 international Journals and 02 national (all indexed) journals.**

# **Annexure-41 of AC-46/2023**

## **Annexure 1**

- We have started American Heart Association (AHA) course for Adult Basic Life Support (BLS)& Advanced Cardiac Life Support (ACLS)
- PG students from all departments have Casualty, ICU ,SICU posting where they need basic life saving skills like BLS ACLS & high quality CPR
- We want all PG students should be enrolled for the same course. ( Two Days Workshop )
- AHA BLS & ACLS courses provides Hands on instruction & simulated cases.
- It will enhance skills of our PG students in the recognition & intervention of cardiopulmonary arrest, immediate post cardiac arrest, acute arrhythmias, stroke & acute coronary syndrome



# MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

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